CLAIMS

1. An optical cable, comprising:

a tension member;

a tube comprised of plastic or metal, stranded together around said tension member, and containing one or more coated optical fibers inside; and

an outer sheath covering an outer periphery of said tube,

wherein a ratio of A/B is 6.3 or more but 7.0 or less, where said each coated optical fiber has a mode field diameter A of 8.6 ± 0.4 μm at a wavelength of 1.31 μm, and a fiber cutoff wavelength of said each coated optical fiber is B μm.

2. An optical cable, comprising:

a tension member;

a tube comprised of plastic or metal, stranded together around said tension member, and containing one or more coated optical fibers inside; and

an outer sheath covering an outer periphery of said tube,

wherein a bending loss of said each coated optical fiber in the diameter of 20 mm at a wavelength of 1.55 μm is 3 dB/m or less.

3. An optical cable according to claim 1 or 2, wherein an extra length ratio of said each coated optical fiber to said tube is more than 0 % but 0.10 % or less.

4. An optical cable according to claim 1 or 2, wherein an extra length ratio of said each coated optical fibers to said tube is -0.03 % or more but less than 0 %.

5. An optical cable according to claim 1 or 2, wherein an

occupied factor of said coated optical fibers within said tube is 20 % or more but 75 % or less.

6. An optical cable according to claim 1 or 2, wherein a minimum radius of curvature of said each coated optical fiber is 15 mm or more but 100 mm or less.

7. An optical cable according to claim 1 or 2, wherein said coated optical fibers contained in said tube are stranded together with each other.

8. An optical cable according to claim 7, wherein said coated optical fibers contained in said tube are contained in a state of one sheet of ribbon fiber or a plurality of sheets of ribbon fiber.

9. An optical cable according to claim 1 or 2, wherein said coated optical fibers contained in said tube are divided into a plurality of groups, and coated optical fibers of said each group are bundled by a colored thread.

10. An optical cable according to claim 1 or 2, wherein a ratio (D/N) is 0.15 mm or less, where D is a cable outer diameter, and N is a total number of said coated optical fibers.

11. An optical cable according to claim 1 or 2, wherein a thickness of said tube is 0.2 mm or less.

12. An optical cable according to claim 1 or 2, wherein a stranded pitch of said tube around said tension member is 100 mm or less.

13. An optical cable according to claim 7, wherein a stranded direction of said tube around said tension member is reversed at a predetermined position in a longitudinal direction of said optical cable.

14. An optical cable according to claim 1 or 2, wherein a ratio (W/N) is 0.7 kg/km or less, where W is a cable weight per unit length, and N is a total number of said coated optical fibers.

15. An optical cable according to claim 1 or 2, wherein said each coated optical fiber has a transmission loss of 0.31 dB/km or less at a wavelength of 1.31 μm, a transmission loss of 0.29 dB/km or less at a wavelength of 1.38 μm, and a transmission loss of 0.18 dB/km or less at a wavelength of 1.55 μm.

16. An optical cable according to claim 1 or 2, wherein an increase of said each coated optical fiber is 0.05 dB/km or less at a wavelength of 1.55 μm during and after a temperature cycle test in a range of -40 ℃ to +70 ℃.

17. An optical cable according to claim 1 or 2, wherein an increase of said each coated optical fiber is 0.05 dB/km or less at a wavelength of 1.38 μm after said each coated optical fiber is placed over four days in an atmosphere of a hydrogen concentration of 1 % and then hydrogen molecules are removed.

18. An optical cable according to claim 1 or 2, wherein an increase of said each coated optical fiber is 2 dB/km or less at a wavelength of 1.55 μm after said each coated optical fiber is irradiated for an hour by γ rays of an absorbed dose of 1000 Gy/hr.

19. An optical cable according to claim 1 or 2, wherein an increase of said each coated optical fiber is 0.05 dB/km or less at a wavelength of 1.55 μm during and after a test according to various types of mechanical test methods prescribed in Telecordia GR-20 Section 6.5.

20. An optical cable according to claim 1 or 2, wherein a

length of said each coated optical fiber which can be taken out is 20 mm or more when said outer sheath is removed over a range of 500 mm in a longitudinal direction of said optical cable.

21. An optical cable according to claim 1 or 2, wherein a polarization mode dispersion PMD_Q of said each coated optical fiber according to a test method prescribed in Section 5.5 and Annex A of IEC60794-3 is 0.05 $ps/km^{1/2}$ or less.

22. An optical cable according to claim 1 or 2, wherein said optical cable has a bending rigidity of 5000 kg · mm^2 or more but 15000 kg · mm^2 or less.

23. An optical cable according to claim 1 or 2, wherein a coefficient of dynamic friction of said outer sheath is 0.3 or less.

24. An optical transmission system comprising an optical cable according to claim 1 or 2 for an optical transmission line for transmitting optical signals.

25. A force-feeding method, comprising the steps of:

preparing an optical cable according to claim 1 or 2; and

force-feeding said prepared optical cable at a force-feeding rate of 20 m/min or more.